EXECUTIVE SUMMARY

"The Web's wild adolescence is over; it's time it grew up." – Oral communication, Julia Laws, former acting Web manager, Department of the Interior.

"…organizations are 'moving work to the Web' in order to improve performance and decrease operating costs." – Internal FAA document, "Requirements and Architecture: A Strategy for Evolving the FAA's Web Presence," February 14, 2003.

Web management is herein defined as the handling of everything involved in building and operating an organization's Web presence. This includes managing content and applications, infrastructure, staff, design, compliance with laws and regulations, and the policies and procedures needed to maintain order and meet organizational goals.

Background

Born in 1991 with the public launch of easy-to-use browser software, the World Wide Web has grown significantly in size, capability, utility, and stature. It has become a pervasive and essential information tool in both the public and private sector. The Web is a medium through which organizations now provide self-service access to essential services, information, and opportunities to millions of customers every day: wherever they are; whenever they need it. But a Web presence does not just happen. Content must be created, tested, approved, formatted, loaded onto servers, and managed for years throughout the life cycle of the information. Computer hardware and telecommunication networks are needed to provide access. Also, designers and programmers are needed to create and maintain interactive applications that provide online services. All of this takes dollars and people and policies and procedures, all of which are incorporated in the notion of Web management. Someone must coordinate all the various tasks, handle the daily surprises and dramas, oversee planning, budgeting, and reporting to senior executives. The larger the organization, the more geographically distributed, and the more internally diverse (in terms of mission), the more complex the challenge of managing Web activities becomes. Research has found that governance is critical in ensuring that IT-related decisions align with organizational objectives. "Companies with better than average IT governance earn at least 20 percent higher return on assets than organizations with weaker governance." (Ross and Weill, 2004)

Methodology

This study sought to learn from "Best-in-Web" organizations and to fulfill three objectives:

- Identify best practices in Web management,
- Learn how organizations became leaders in Web management, and
- Compile a guide to help other organizations achieve Web excellence.

Web managers at ten Federal Government organizations with some of the best Web sites were asked how they do their jobs. Nine large, distributed, and diverse Federal Government organizations were selected for their outstanding Web presences. The tenth was FirstGov, the award-winning cross-government portal who learned of this study and asked to participate. As it turned out, these participating organizations did not include as much diversity as was sought. EPA, NASA, and the Department of the Treasury were the most internally diverse organizations, so their answers should be of special interest to Web managers working in internally diverse organizations (such as the Department of the Interior).

All participating organizations completed a questionnaire with 29 questions (see Appendices) and answered additional questions via telephone interviews. Numeric data collected on the questionnaire was averaged, and compared, but because of the small and selected nature of the population, no statistical analysis was considered possible. The numeric values were used only to sort answers into general groupings. Answer scores represent the extent to which organizations use the practice in question. Scores for effectiveness (E), importance (I), and difficulty (D) were used to rank the practices in terms of these considerations. The E, I, and D information helped in identifying the "Most Effective," "Most Important," and "Least Difficult" practices. These are the areas that probably deserve the most attention from Web managers and executives.

In addition to the questionnaire and interview data, some participants offered to share internal documents and other information. The Best-in-Web recommendations presented here were derived from all these data sources.

The recommendations in this report are important strategies and effective practices to promote a healthy and successful Web presence, no matter how large or complex the organization.

Centralization Models for Organizing Web Activities

Centralization of Web management emerges as a common theme from most of the recommendations in this report, but the larger, more distributed, and more internally diverse the organization, the bigger is the challenge of centralizing. For these reasons, organizations have developed various approaches to centralizing Web activities.

Three centralization models are apparent from this study. A unified model (see definitions below) seems to work well for internally homogeneous organizations. A federated model better addresses the needs of organizations that have distributed and diverse organizational units with related and /or coordinated aspects to their missions – a balance of interdependence and independence. A distributed model works well for organizations that have very strong and independent subunits that have little or no need for internal coordination. Some organizations are in transition between models, the result of a management decision to reorganize/restructure their Web activities.

Unified – complete centralization, in which all Web activities are accomplished by one Web Team at the top level of an organization. Examples of this model are HUD, SSA, and USPS.

Federated – a partial centralization at the higher level, in which subunits of an organization coordinate overall Web management, allowing independence or "flexibility" to subunits for some aspects, while centralizing other aspects at the top level. A good example of this model is NASA, which has 11 locations that do different work, but ultimately work together to accomplish goals. FirstGov may be a variant of this model.

Distributed – centralization at the subunit level, in which the top-level organization does not or can not standardize, coordinate, or control all Web management for all the subunits. An excellent example of this model is the Department of the Treasury, whose Web presence is an overview for and point of entry into its subunits. Treasury allows the subunits to retain separate designs for look and feel and to manage their Web activities independently, with little overall coordination.

Best-in-Web Strategies

They operate with top-level executive support that –

- Views the Web as integral to organizational activities
- Funds Web activities adequately
- Aligns Web tasks with mission goals
- Involves all stakeholders in the organization around the Web as a key tool in accomplishing the goals
- Entrusts Web work to a full time "Web Team" under the leadership of a professional Web Manager
- Positions the Web manager and team in the Communications or Public Affairs Office, where contact with executives can be frequent and effective
- Employs the Web as the official voice of the organization to outside constituencies
- Involves Web managers in strategic planning and decision making

They have one Web site for the organization in order to –

- Use consistent page design standards and/or templates for the entire Web site
- Bring all information and services together into one place where customers can easily find it and where maintenance of the content is most easily managed
- Present the organization's "brand" or corporate image to best advantage and assure authenticity and accountability for the content
- Coordinate all Web activities across the organization
- Employ an enterprise architecture designed around the major categories of their information and services
- Centralize their Web infrastructure
- Standardize on software and hardware for the Web

They are passionate about serving their customers by –

- Knowing their customers and what they want
- Seeking new customers
- Gathering customer feedback and turning it into improvements
- Continuously keeping content fresh, not just by adding new content, but by improving navigation and moving old content to an archive
- Making investments in outreach and marketing to help customers find and use their Web content and services

They measure their performance to drive improvement by –

- Using project management techniques to plan and monitor and report on Web work
- Gathering and using customer feedback and Web statistics
- Monitoring progress toward goals
- Using accomplishments, metrics, customer and senior executive satisfaction, external recognition, and anything else that demonstrates how the Web contributes to accomplishing mission goals

In addition to these Best-in-Web practices, the participating organizations have described the specific approaches they use for managing challenges in the areas of Web governance, content, infrastructure, staff, budgeting, and planning.

Best Practices for Managing Web Elements

Managing Content

Content is why customers come to an organization. Content includes text and images, as well as applications that provide interactive services over the Web. Different kinds of content need different kinds of management.

- Translate Web analytics and customer feedback into improvements to the Web site.
- Use content standards. Ensure that Web content standards are understood in the organization. Consistent page design is better for the customer and for site maintenance.

- Ensure that new content meets prescribed standards. Review new content before it is approved for posting.
- Review posted content regularly. This housekeeping is even more important than initial content approval. ("Retired" content needs to be retained in an archive so it is not lost.)
- Find and fix underused content. Evaluate Web logs to find content that may be underused.
- Involve all stakeholders in the development of new Web functionality.
- Write for the Web. Be brief, use bullets, keep each page simple, and write for the 8th grade reading level.
- Minimize graphics. Be sensitive to users with older browsers and computer capabilities. Do not use animations or flashing text.
- Simplify the management of content you co-own with partners. Use a memorandum of understanding. Ensure that content meets the host organization's content standards.

Improving Navigation

Best-in-Web organizations continually review and tweak navigation, yet do not change familiar navigation tools and overall structure too often.

- Avoid major Web site redesign more often than once every 18 to 24 months.
- Fix broken links as content changes.
- Look for ways to improve the customer's Web experience by reducing clicks.
- Learn from other Web sites. Copy good practices.
- Manage data so that Web content can be found by the major search engines.

Identifying Customers, and Obtaining and Using Customer Input

Meeting the customer need is the central goal. Get to know customers and measure customer satisfaction using whatever means you can.

- Identify customers using customer surveys and feedback.
- Gather customer satisfaction data using customer surveys and emails sent to a "Contact us" address.
- Use focus groups, usability testing, and other in-person interactions.
- Use Neilsen//NetRatings, Web statistics, and other ways to get to know customers and what they want.
- Learn to think like customers; know what they want, and how they come looking for it.

Managing the Infrastructure

Most Best-in-Web organizations centralize their Web infrastructure.

- Locate Web servers and data storage in very few locations, and have redundant systems for load balancing (to handle variations in traffic volume) and for offsite backups in case of an emergency.

- Consider a hosted infrastructure (owned and operated by contractors). Be sure to retain ownership of data and software code; this enables the organization to change contractors more easily if and when it is needed in the future.

Managing Staff

Web activities are performed by many kinds of employees.

- Ensure that management and leadership of Web activities are done by government staff.
- Place Web operations tasks (posting of text, reviewing links, correcting errors, handling customer feedback, etc.) in the hands of one content-oriented team of employees directed by the Web manager.
- Staff these activities with well-trained Web experts. Resist allowing other professionals to take on Web tasks when it takes away from their other duties.
- Consider performing many of the hands-on tasks of content posting, new coding, and IT operations and maintenance with contractors.
- Engage staff from the organization's programs to create new content and help review posted content.
- Consider outsourcing for IT operations and maintenance tasks.
- Recognize and celebrate Web accomplishments appropriately.
- Review titles, position descriptions, and grade levels for Web staff for consistency and level of responsibility.

Budget Planning

Web activities hide in many parts of an organization's budget, because they are an inherent part of business processes that span many parts of the organization.

- Fund Web activities adequately.
- Budget for new Web developments (which may include content and IT tasks) as projects and include all the expected costs.
- Budget for Web operations as predictable operating costs.
- Expect to make IT procurements every year, but don't require specific details until the year of purchase. Consider these to be long-term investments and establish a general or working capital fund for these purchases.
- Budget for the task of reviewing Web content in every program that has content on the Web.

Practices for Intranet and Extranet

Intranet and extranet work is generally handled very differently, although this may not be a best practice.

- Reconsider the idea that the Internet's public nature makes it more a priority than intranet. Reevaluate the potential of intranet and extranets as tools for accomplishing the mission.
- Review the role of the Public Affairs and Communications offices (with their focus on external communications), and decide if they should manage only the public side

of the organization's Web presence, while IT and Operations staff manages the intranet or internal side.

No single participating organization uses all these Best-in-Web practices, although a few organizations use many. HUD is unique in that they have used most of these Web management practices since 1995. Most of the participating organizations have turned to using these practices in the past few years.

Eight Steps to Becoming a Best-in-Web Organization

The Best-in-Web organizations in this study provided recommendations others can use to become a Best-in-Web organization. These recommendations vary, but this study has extracted the eight key steps to help organizations become stronger in preparation for implementing Best-in-Web practices.

1. Ensure high level support in the organization for the Web presence.

2. Establish governance of Web activities in a "Web Team" as close as possible to the organization's leadership and ensure decisions are made in the best interests of the organization and the Web site.

3. Define the purpose of the Web site based on customer needs and what the organization has to offer them.

4. Develop clear business rules for workflow and content approvals, and for maintaining the Web site. Keep content fresh.

5. Ensure that the whole organization focuses on the customers and understands their perspective (e.g. customers may not know how the government is organized).

6. Fully integrate the Web into day-to-day business processes of the organization. Use the intranet as the main resource for all employees.

7. Use performance measures and goals that align with accomplishing the organization's larger mission.

8. Promote your Web site by ensuring that customers and potential customers are aware of the Web address and the information and services they can find.

Comparison with FirstGov

The FirstGov Web site demonstrates how a focus on customer needs (rather than organizational structures) can improve the presentation of Federal Government information to an eager and waiting customer. Further, FirstGov employs most of the Best-in-Web practices identified by this study. The relative newness of FirstGov to the Web landscape (built in response to the E-Government Act of 2002) means that it has a relatively new infrastructure and data architecture created with one specific purpose in mind. This stands in contrast to Web conditions at most Federal Government organizations, where over the past decade diverse programs have waxed and waned, providing content and infrastructure elements for multiple customer groups, in most cases with little or no central coordination.

- FirstGov is an architecture designed around the major categories of the information and services
- FirstGov is an infrastructure designed for easy access for high volumes of non-technical customers
- FirstGov provides high-visibility links to content from partner organizations rather than owning the content
- FirstGov is selective about the content it links to, rather than being a comprehensive collection of Federal Government information

What Now?

While this study is a start, it leaves many Web management questions at the next level of detail unanswered. To understand how some organizations succeed where others stumble, further investigation is needed. A study of more complex and diverse organizations is needed. Questions yet to be probed, but important to good Web management include:

- What methods help Web team address issues across organizations or across stovepipes within organizations?
- What should be in a Web position description, statement of work, or performance standard?
- What is the best way to balance Internet and intranet tasks and needs?
- How should decisions be made about the adequate level of funding for Web operations and developments?
- How should Web activities be handled in the budget process?

This study has proven useful in that it provides recommendations that are important strategies and effective practices. Web management in Federal Government organizations can and must be improved if there is to be a successful return on the taxpayers' investment in Federal Web activities. (Outside the Federal Government, a push for improved Web management will be driven by cost and benefit considerations.) In addition, organizations must look forward in time and create an organization that will use the Web in many ways not yet envisioned. The practices recommended from this study can help an organization become one of today's Best-in-Web organizations -- but what is needed to be tomorrow's best? The information and services an

organization provides are what give organizations their value. How an organization leverages the Web to create and deliver this value will to a great extent define the organization's future.

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